



JENNIFER M. GRANHOLM  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



STEVEN E. CHESTER  
DIRECTOR

Updated September 30, 2004

## Public Transportation Agencies

Dear Messieurs or Meses.:

SUBJECT: Emergency Replacement of Bridges and Culverts

In the event of a bridge or culvert failure during a flooding event, the responsible Public Transportation Agency (PTA) is responsible for notifying the area Land and Water Management Division (LWMD) Transportation Specialist as soon as possible. **Permits are required from the LWMD for emergency situations.** Depending on the timeframe and situation, the LWMD can issue an emergency letter permit or give a verbal approval to reopen the road immediately. The PTA does have some latitude to use their discretion if the LWMD personnel cannot be reached, i.e. after hours or on the weekends. The PTA is responsible for notifying the area LWMD Transportation Specialist the next workday **if they cannot be reached before replacing the structure.** The replacement structure may be a permanent replacement or a temporary structure while the PTA designs a permanent crossing. The replacement cannot cause additional backwater on upstream properties without a signed damage waiver from the affected property owner or a hydraulic certification indicating no harmful interference.

Once the failed crossing has been replaced, the PTA must submit the appropriate paperwork to the LWMD within four weeks. In an effort to streamline this process, the LWMD has developed a two-page sheet (attached) which the PTA needs to fill out for each location. The PTA should take time to examine why the crossing failed and determine if there were any existing problems at the crossing, i.e. scour holes or poor alignment. They should try and correct these problems if possible during the replacement process. The LWMD Transportation Specialist will inspect each site to ensure that the replacement structure was adequately sized and placed, and that proper soil erosion controls are in place. Once this has occurred, the LWMD may issue an after-the-fact permit.

Some common mistakes which should be avoided during the emergency replacement include:

1. Putting in a smaller structure - this will likely cause additional backwater and increase the potential for future failure.
2. Raising the road grade - this will likely cause additional backwater and erosion if water previously or currently goes over the road during a flood event.
3. Raising the invert of the culvert - this may cause the culvert to become perched.
4. Improper alignment - this may cause additional stream bank erosion and future failure.
5. Improper soil erosion measures - once the floodwaters have receded, it is required that the site be stabilized within five days to prevent more soil from entering the stream. Proper stabilization will also help to prevent future failures.

It is a benefit to the PTAs to follow these procedures and obtain the appropriate authorizations. Failure to submit the proper paperwork may result in the loss of state and federal emergency funding for the replacement work. An unpermitted replacement could become a liability to the PTA, resulting in civil or criminal litigation. If the stream or drain has a contributing drainage area at the crossing of two square miles or more, final approval will be needed from the LWMD's hydraulic staff.

Please see the attached map and flow chart to contact the appropriate LWMD staff for your area.

Sincerely,

Gerald W. Fulcher, Jr., P. E., Chief  
Transportation and Flood Hazard Unit  
Land and Water Management Division  
517-335-3172

Attachments



**Proposed Conditions:**

	<b>YES</b>	<b>NO</b>
Will the proposed structure have a different span, rise, length or width than the existing structure?	<input type="checkbox"/>	<input type="checkbox"/>
Will temporary and permanent soil erosion controls be implemented?	<input type="checkbox"/>	<input type="checkbox"/>
Will there be any changes to the invert elevation from the existing conditions?	<input type="checkbox"/>	<input type="checkbox"/>
Will the road low point elevation be increased?	<input type="checkbox"/>	<input type="checkbox"/>

**Proposed Structure:**    **circle one (culvert or bridge)**    **circle one (metal**        **concrete**        **timber)**

**Culvert entrance**        **circle one**        **(projecting**        **mitered**        **headwall**        **wingwalls)**

Culvert Diameter    \_\_\_\_\_ feet    Span    \_\_\_\_\_ feet    Rise    \_\_\_\_\_ feet

Length of culvert    \_\_\_\_\_ feet    Width of bridge    \_\_\_\_\_ feet

Waterway (end area) opening (ft<sup>2</sup>)    \_\_\_\_\_

Low steel elevation (ft)    \_\_\_\_\_

Invert elevation (ft) structure    \_\_\_\_\_

Invert elevation (ft) stream    \_\_\_\_\_

High-water elevation (ft)    \_\_\_\_\_

Road grade elevation at structure (ft)    \_\_\_\_\_

Elevation of low point of approach (ft)    \_\_\_\_\_

**Description (Construction staging including soil erosion control measures to be implemented):**

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**Signature:** \_\_\_\_\_ **(owner)**    **Phone:** \_\_\_\_\_    **Date:** \_\_\_\_\_

**Print Name:** \_\_\_\_\_ **(owner)**    **Agency:** \_\_\_\_\_

**MDEQ Transportation Specialists:**

Upper Peninsula:        Ginny Pennala, 906-346-8554: Fax 906-346-4480

Northern Lower Peninsula:    Jeff Silagy, 989-705-3429: Fax 989-731-6181

Southern Lower Peninsula:    Alex Sanchez, 517-335-3473 and Holly Vickers, 517-373-4667; Fax: 517-241-0275

**Please mail to:**    **TRANSPORTATION AND FLOOD HAZARD UNIT**  
**LAND AND WATER MANAGEMENT DIVISION**  
**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**PO BOX 30458**  
**LANSING MI 48909-7958**